



YANMAR DIESEL ENGINE CO., LTD.

EXECUTIVE ORDER U-R-028-0093 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)			
2003	3YDXL1.11W3N	1.115	Diesel				
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
	Indirect Diesel Inje	ction	Crane, Loader, Tractor, Dozer, Pump, Compressor, Refrigerator				

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER	EMISSION STANDARD				EXHAUST (g/kw-ł	OPACITY (%)				
CLASS	CATEGORY		HC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
8 ≤ KW < 19	Tier 1	STD	N/A	N/A	9.5	6.6	0.80	20	15	50
		CERT			5.8	1.6	0.27	5	5	5

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 2157 day of March 2002.

Allen Lyons, Chief

New Vehicle/Engine Programs Branch

Engine Model . . . mmary Form

Manufacturer: Yanmar Diesel Engine Co.,Ltd.

Engine category: Nonroad CI

EPA Engine Family: 3YDXL1.11W3N

Mfr Family Name: N/A

Process Code: New Submission

ATTACHMENT

FO U-R-026-0093

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missi e Per													
9.Emission Control Device Per SAE J1930													
													3.00868 2.00868
8.Fuel Rate: (lbs/hr)@peak torque													
el Ra)peak	7.9	7.7	1										
8.Fu 'hr)@					- 100 - 100 - 100 - 100						900		
(lbs/													
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kate: @pei	က										936183		
Fuel Rat stroke@ torque	25.3	24.5											
7.Fuel Rate: mm/stroke@peak torque													
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₽ ~	0	0									55. 55 55. 55		1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
6.Torque @ RPM (SEA Gross)	50.5/1900	49.2/1900			0.000								* ***
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6.To (S	2	4											
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5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)		w											
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e @ eselo	20.7	20.4											
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)													
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3.BHP@RPM (SAE Gross)	19.7/2425	19.6/2425	? c	6 -									
3.B (S)	19	70		17-1 kv									
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2.Engine Model	3TNV76K-VM												
1.Engine Code	N/A												
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